

Features

- ◆ Ultra wide 4:1 input voltage range
- ◆ Single output voltage models from 1.8 to 15 VDC
- ◆ Dual output voltage models
- ◆ Extended operating temperature range: -40°C to 85°C
- ◆ Under voltage lockout
- ◆ Remote On/Off
- ◆ Shielded metal case with insulated baseplate
- ◆ Optional heatsink
- ◆ Lead free design - RoHS compliant
- ◆ 3-year product warranty



The TEN 30WI series is a family of high performance 30W dc-dc converters featuring ultra wide 4:1 input voltage ranges in a compact low profile package with industry-standard footprint. A very high efficiency allows operating temperatures up to 85°C. A built-in filter for both input and output minimizes the need for external filtering. Further standard features include remote On/Off, output voltage trimming, over voltage protection, under voltage lockout and short circuit protection. Typical applications for these products are battery operated equipment and distributed power architectures in communication and industrial electronics, everywhere where isolated, tightly regulated voltages are required and space is limited on the PCB.

Models

Order code	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEN 30-2408WI	10 – 40 VDC (nominal 24 VDC)	1.8 VDC	8'000 mA	80 %
TEN 30-2409WI		2.5 VDC	8'000 mA	85 %
TEN 30-2410WI		3.3 VDC	6'000 mA	87 %
TEN 30-2411WI		5.0 VDC	6'000 mA	87 %
TEN 30-2412WI		12 VDC	2'500 mA	87 %
TEN 30-2413WI		15 VDC	2'000 mA	88 %
TEN 30-2422WI		±12 VDC	±1'250 mA	85 %
TEN 30-2423WI		±15 VDC	±1'000 mA	86 %
TEN 30-4808WI	18 – 75 VDC (nominal 48 VDC)	1.8 VDC	8'000 mA	81 %
TEN 30-4809WI		2.5 VDC	8'000 mA	86 %
TEN 30-4810WI		3.3 VDC	6'000 mA	87 %
TEN 30-4811WI		5.0 VDC	6'000 mA	88 %
TEN 30-4812WI		12 VDC	2'500 mA	87 %
TEN 30-4813WI		15 VDC	2'000 mA	88 %
TEN 30-4822WI		±12 VDC	±1'250 mA	86 %
TEN 30-4823WI		±15 VDC	±1'000 mA	87 %

General Specifications

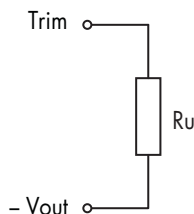
Temperature ranges	- Operating - Case temperature - Storage	-40°C to +85°C +100°C max. -55°C to +105°C
Thermal impedance	- with heat-sink TEN-HS2 - without heat-sink	8.24 K/Watt 10 K/Watt
Derating		www.tracopower.com/products/ten30wi-derating.pdf
Humidity (non condensing)		95 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F, at +25°C, ground benign)		>350'000 h
Isolation voltage (60sec.)	- Input / Output	1'500 VDC
Isolation resistance	- Input / Output	>1'000 M Ohm
Isolation capacitance	- Input / Output	1000 pF max.
Remote On/Off	- On: - Off: - Off idle current:	3.5 ... 12 VDC or open circuit. 0 ... 1.2 VDC or short circuit pin 3 and pin 2 3 mA typ.
Switching frequency		300 kHz typ. (pulse width modulation PWM)
Vibration		10–55 Hz, 2G, 30 minutes along X,Y,Z
Safety standards		UL 60950, IEC/EN 60950, compliance up to 60 VDC input voltage (SELV limit)
Safety approvals	- UL/cUL	www.ul.com > UL File no.: e188913
Environmental compliance	- Reach - RoHS	www.tracopower.com/products/ten30wi-reach.pdf RoHS directive 2002/95/EC

Note 1:

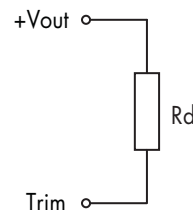
In order to meet conducted emissions EN55022-A and EN55011-A a capacitor between +Vin and -Vin has to be installed. The capacitor should be capable to handle 1 A ripple current. A suggestion is KMF Series of Nippon chemi-con, 220µF/100V, ESR 90mOhm.

Output Voltage Adjustment

Trim up



Trim down



Ru [kohm]*

output	1.8V	2.5V	3.3V	5.0V
+5%	1.2	4.3	6.8	4.7
+10%	0.068	0.82	1.5	0.56
output	12V	15V	±12V	±15V
+5%	47	47	27	33
+10%	8.2	6.8	2.2	2.7

Rd [kohm]*

output	1.8V	2.5V	3.3V	5.0V
-5%	1.8	6.8	8.2	5.6
-10%	0.1	0.82	0.68	0.68
output	12V	15V	±12V	±15V
-5%	56	56	33	39
-10%	5.6	2.2	2.7	3.3

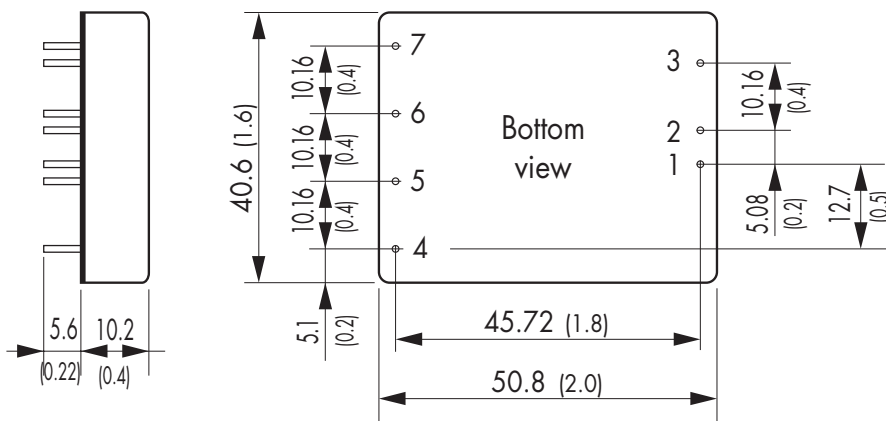
*approximate values

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Physical Specifications

Casing material	copper, nickel plated
Baseplate material	none conductive FR4
Potting material	epoxy (UL 94V-0 -rated)
Weight	48 g (1.69 oz)
Soldering temperature	max. 265°C / 10 sec.

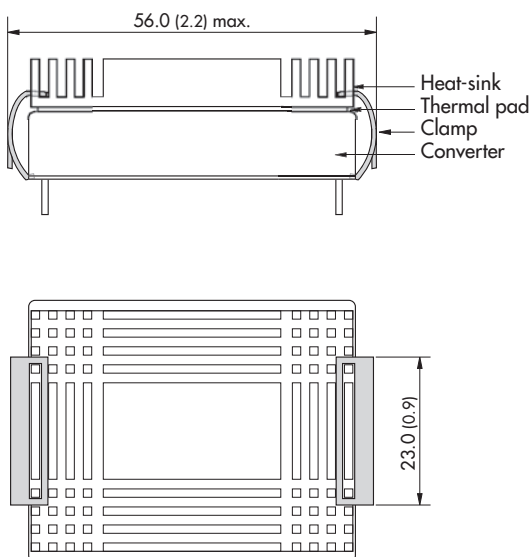
Outline Dimensions



Pin-Out		
Pin	Single	Dual
1	+Vin (Vcc)	+Vin (Vcc)
2	-Vin (GND)	-Vin (GND)
3	Remote On/Off	
4	No pin	+Vout
5	+Vout	Common
6	-Vout	-Vout
7	Trim	

Dimensions in [mm], () = Inch
 Pin diameter: 1.0 ±0.05 (0.02 ±0.002)
 Pin pitch tolerances: ±0.35 (±0.014)
 Case tolerances: ±0.5 (±0.02)

Heat-sink TEN-HS2



Order code: TEN-HS2

(cont.: heat-sink, thermal pad, 2 clamps)

Material: Aluminum

Finish: Anodic treatment (black)

Weight: 19 g (0.67oz) (without converter)



3D step file: www.tracopower.com/products/ten30wi-3d.stp

Note:

The product label on converter has to be removed before mounting the heat-sink. For volume orders converters will be supplied with heat-sinks already mounted. Please contact factory for quotation. Separate heat-sinks are only available for prototypes and small quantity orders.

Specifications can be changed any time without notice.